

ABSTRACT OF THE DISCLOSURE

On a single chip are formed a plurality of magnetoresistance effect elements provided with pinned layers having fixed magnetization axes in the directions that cross each other. On a substrate 10 are formed magnetic layers that will become two magnetic tunnel effect elements 11, 21 as magnetoresistance effect elements. Magnetic-field-applying magnetic layers made of NiCo are formed to sandwich the magnetic layers in plan view. A magnetic field is applied to the magnetic-field-applying magnetic layers. The magnetic field is removed after the magnetic-field-applying magnetic layers are magnetized in the direction shown by arrow A. As a result of this, by the residual magnetization of the magnetic-field-applying magnetic layers, magnetic fields in the directions shown by arrows B are applied to the magnetic layers that will become magnetic tunnel effect elements 11, 21, whereby the magnetization of the pinned layers of the magnetic layers that will become magnetic tunnel effect elements 11, 21 is pinned in the directions shown by arrows B.